

First Named Inventor: William J. Swanson

Application No.: 09/804,401

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AMENDMENTS TO THE CLAIMS

Please cancel claims 18-36, add claims 41 and 42, and amend claims 37 and 39 such that the status of the claims is as follows:

1.(Previously Presented) A filament cassette for supplying filament to a modeling machine that builds three-dimensional objects by extruding modeling material supplied in the form of a filament and made flowable when heated, comprising:

- a dried chamber containing a rotatable spool of coiled filament;
- a filament path leading from the chamber to an exit orifice;
- a means for advancing a filament strand from the spool along the filament path; and
- means for preventing air flow to the chamber.

2.(Original) The filament cassette of claim 1, wherein the means for advancing comprises:
a pair of rollers mounted opposite one another along the filament path so as to grip
the filament strand therebetween.

3.(Original) The filament cassette of claim 2, wherein each roller in said pair of rollers is passive and one roller in said pair is a follower roller that is accessible to receive an external drive force.

4.(Original) The filament cassette of claim 3, wherein the follower roller has a floating axis of rotation in a direction perpendicular to the filament path, allowing the follower roller to move away from the filament path in the absence of an external applied force, thereby relieving pressure on a filament strand in the filament path.

5.(Original) The filament cassette of claim 1, wherein the means for advancing comprises a knurled roller mounted opposite a wall of the filament path so as to grip the filament strand therebetween.

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6.(Original) The filament cassette of claim 5, wherein the knurled roller is accessible to receive an external drive force.

7.(Original) The filament cassette of claim 1, wherein the means for advancing comprises a raised contour in a wall of the filament path over which a strand of filament is positioned, the raised contour being accessible such that an external propulsion force may be applied to the strand of filament.

8.(Original) The filament cassette of claim 7, wherein the raised contour is defined by the surface of an idler wheel.

9.(Previously Presented) The filament cassette of claim 1, wherein the means for preventing air flow comprises:

a retainer which positions the filament strand in the filament path while blocking air flow along the filament path.

10.(Previously Presented) The filament cassette of claim 1, wherein the chamber and the coiled filament are dried to a water content of less than 700 parts per million.

11.(Previously Presented) The filament cassette of claim 1, wherein the means for preventing air flow to the chamber additionally prevents air flow to the filament path.

12.(Previously Presented) The filament cassette of claim 11, wherein the chamber and the coiled filament are dried to a water content of less than 700 parts per million.

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13.(Previously Presented) The filament cassette of claim 11, wherein the means for preventing air flow comprises:

a door through which the means for advancing is accessed.

14.(Original) The filament cassette of claim 1, wherein the chamber has a window which allows observation of the amount of filament wound on the spool.

15.(Original) The filament cassette of claim 1, and further comprising:

a supply of desiccant inside of the chamber.

16.(Original) The filament cassette of claim 1 and further comprising:

an electronically readable and writeable data store mounted on the cassette so as to be accessible to an external controller and containing information about the filament.

17.(Original) The filament cassette of claim 1, and further comprising:

a registration means for mating with a modeling machine so as to align the exit orifice with a filament conduit of the modeling machine.

18.- 36. (Canceled)

37.(Currently Amended) A method for assembling the filament cassette of claim 1, comprising the steps of:

loading the spool of coiled filament into the chamber;

drying the chamber and the coiled filament to a water content of less than 700 parts per million; and

sealing the chamber after the filament is loaded.

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38.(Original) The method of claim 37, wherein the drying step comprises placing a supply of desiccant in the chamber.

39.(Currently Amended) The method of claim 37, wherein the drying step comprises heating the filament cassette in an oven under vacuum conditions after the filament is loaded into the chamber and before performing the step of sealing.

40.(Original) The method of claim 37, wherein the filament is formed of a high-temperature thermoplastic.

41.(New) The method of claim 37, wherein the filament is dried to a water content of less than 700 parts per million.

42.(New) The method of claim 37, and further comprising the step of positioning the filament strand in the filament path, in operable association with the means for advancing.